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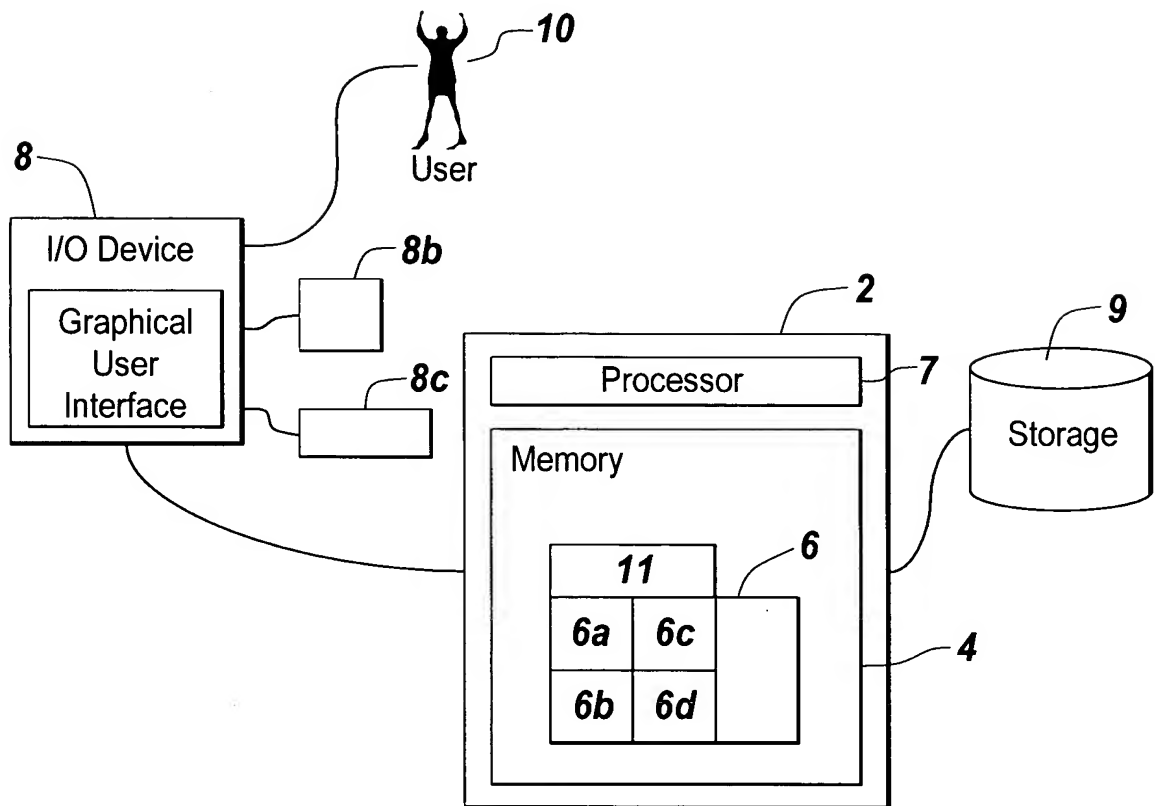
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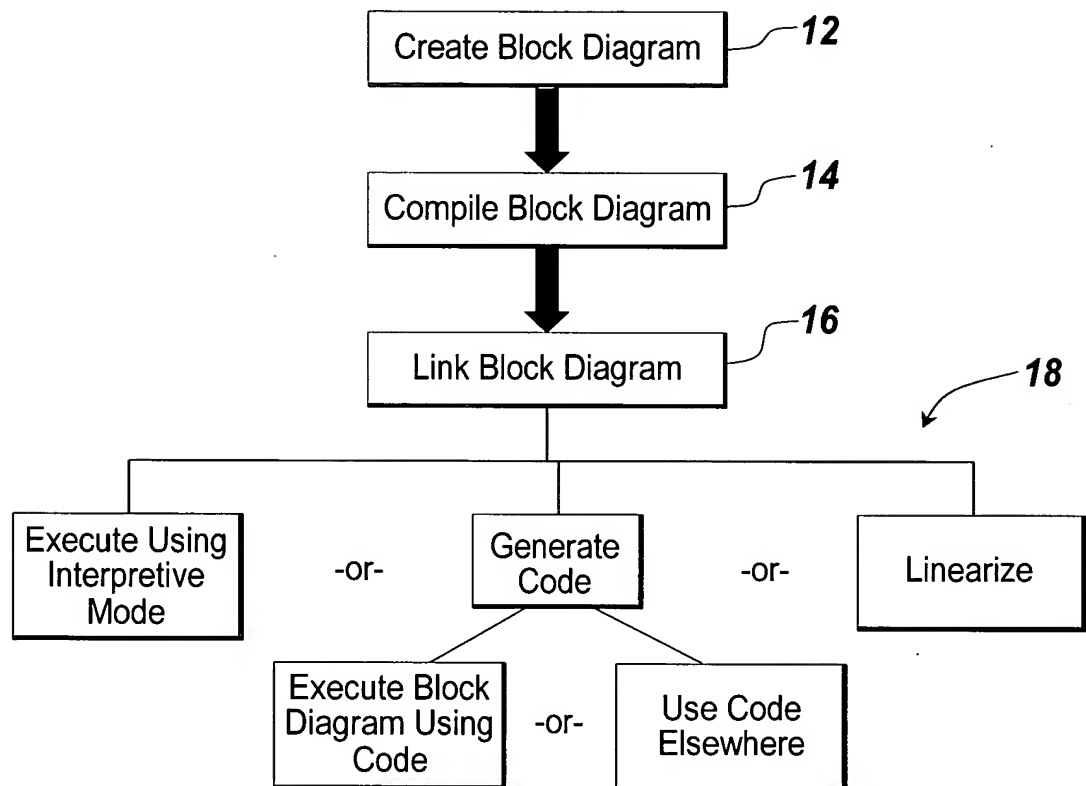
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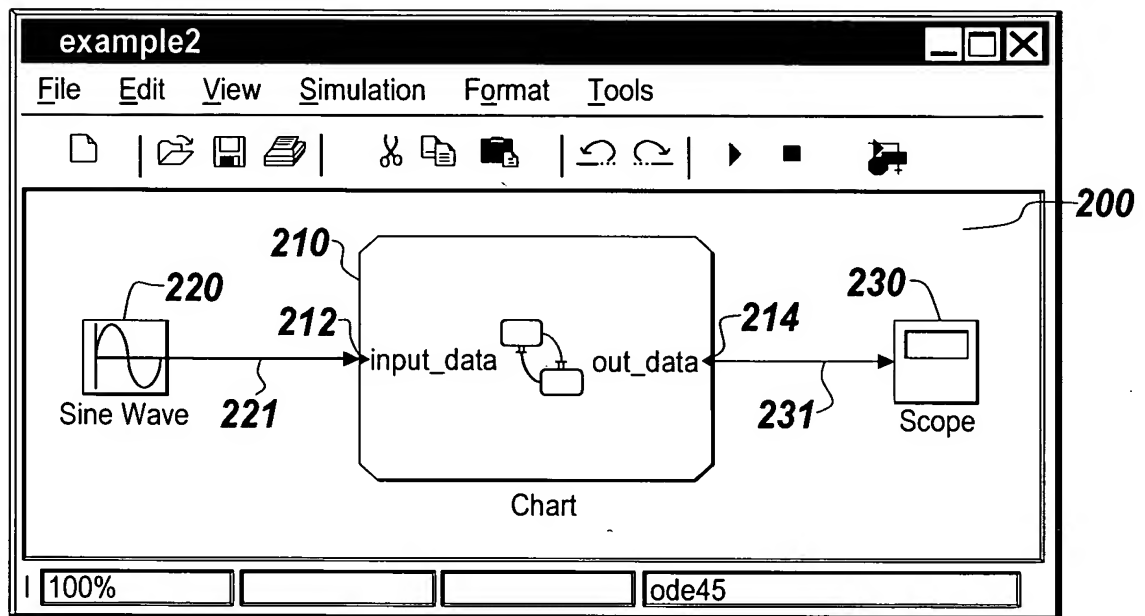
*Fig. 1A*

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*Fig. 1B*

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*Fig. 2*

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310

320

300

**Block Properties: Product** [ ] [ ] [X]

General | Block Annotation | Callbacks | 330

Information

General block properties.  
Description: text field that is generally used for saving comments about the block.  
Priority: specifies the block's sequencing during execution relative to other blocks with priorities in the same window.  
Tag: a general text field as label which is saved with the block.

Description: 312

Priority: 314

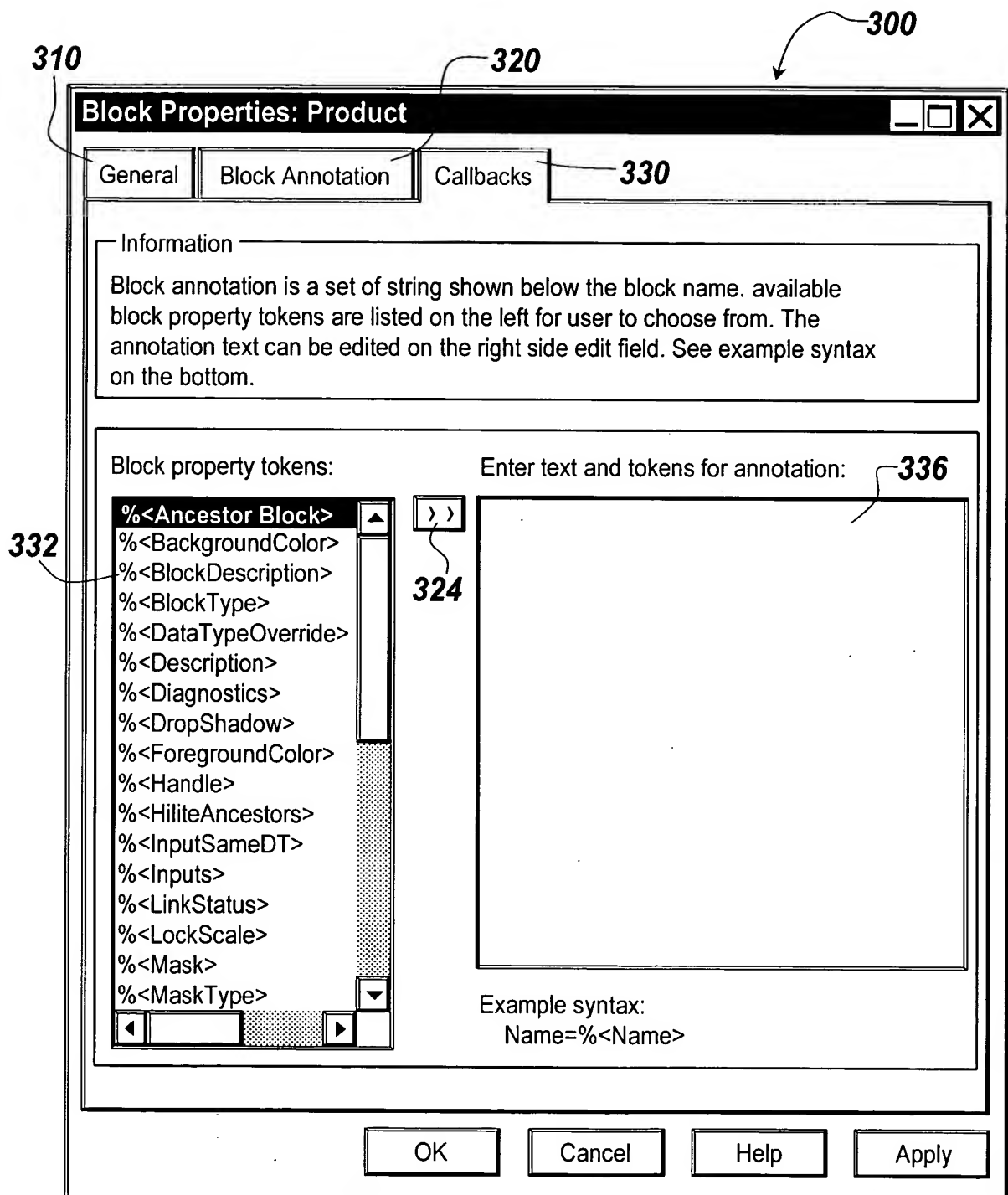
Tag: 306

Code Preview: 318

OK Cancel Help Apply

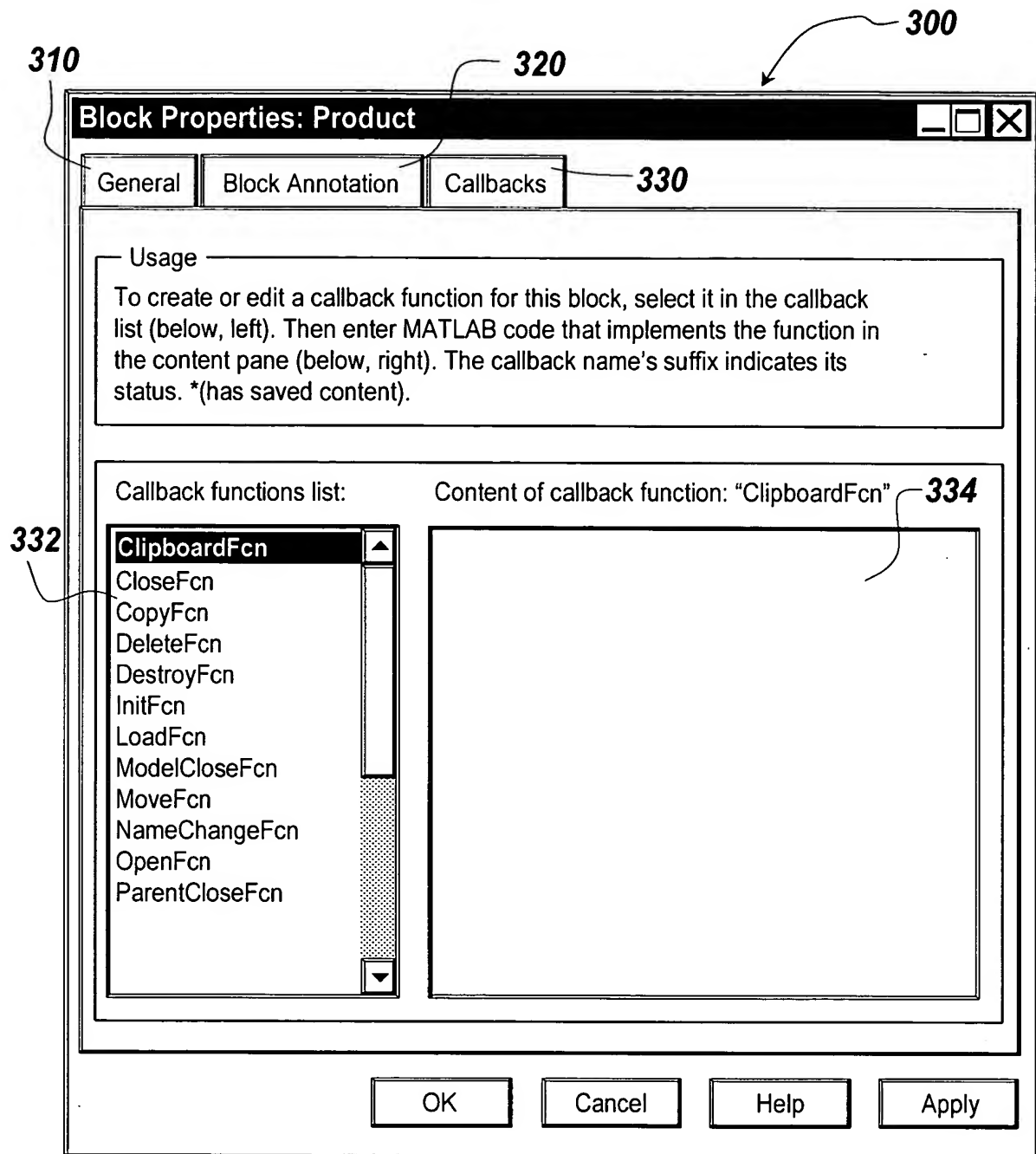
*Fig. 3A*

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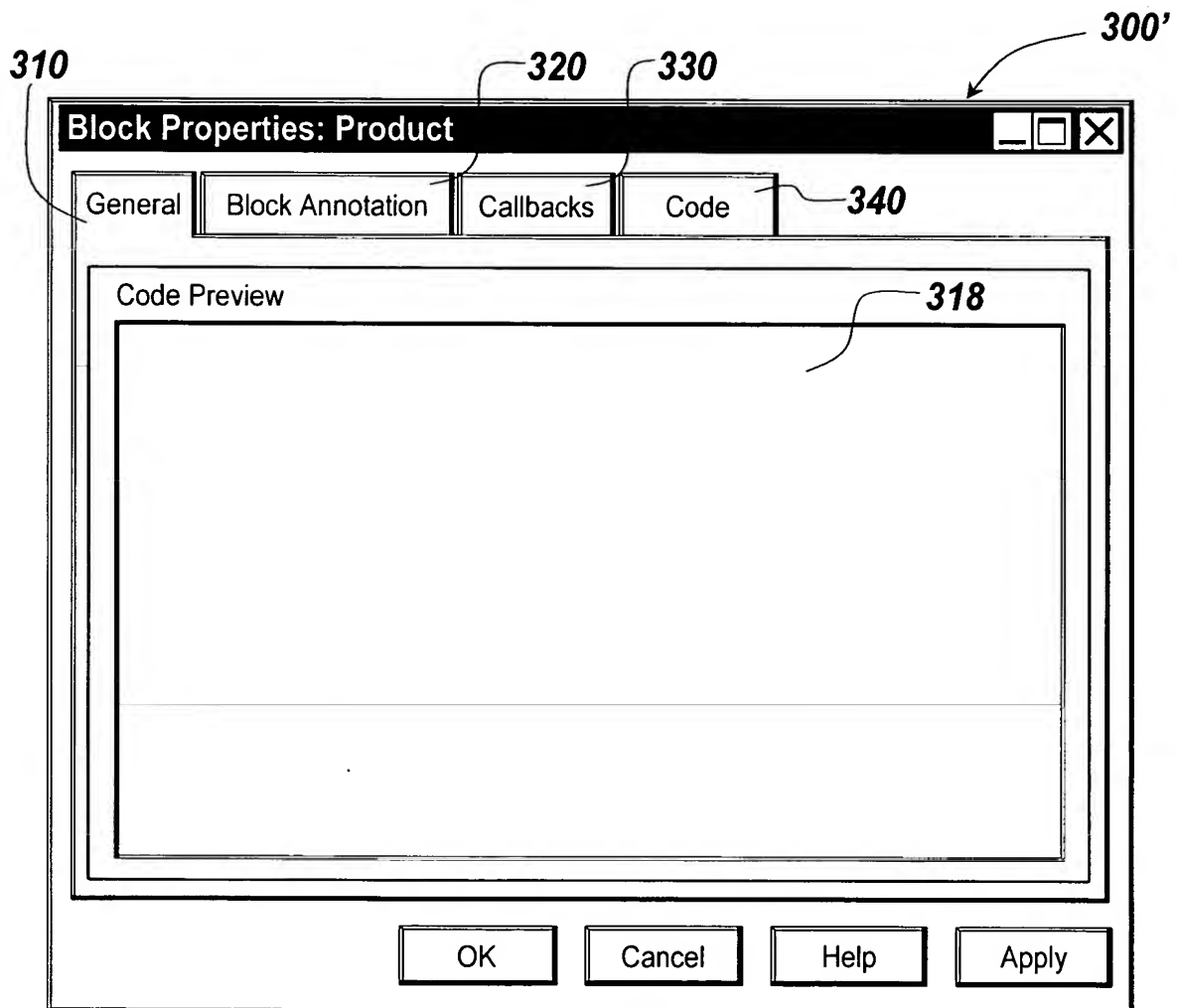
*Fig. 3B*

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*Fig. 3C*

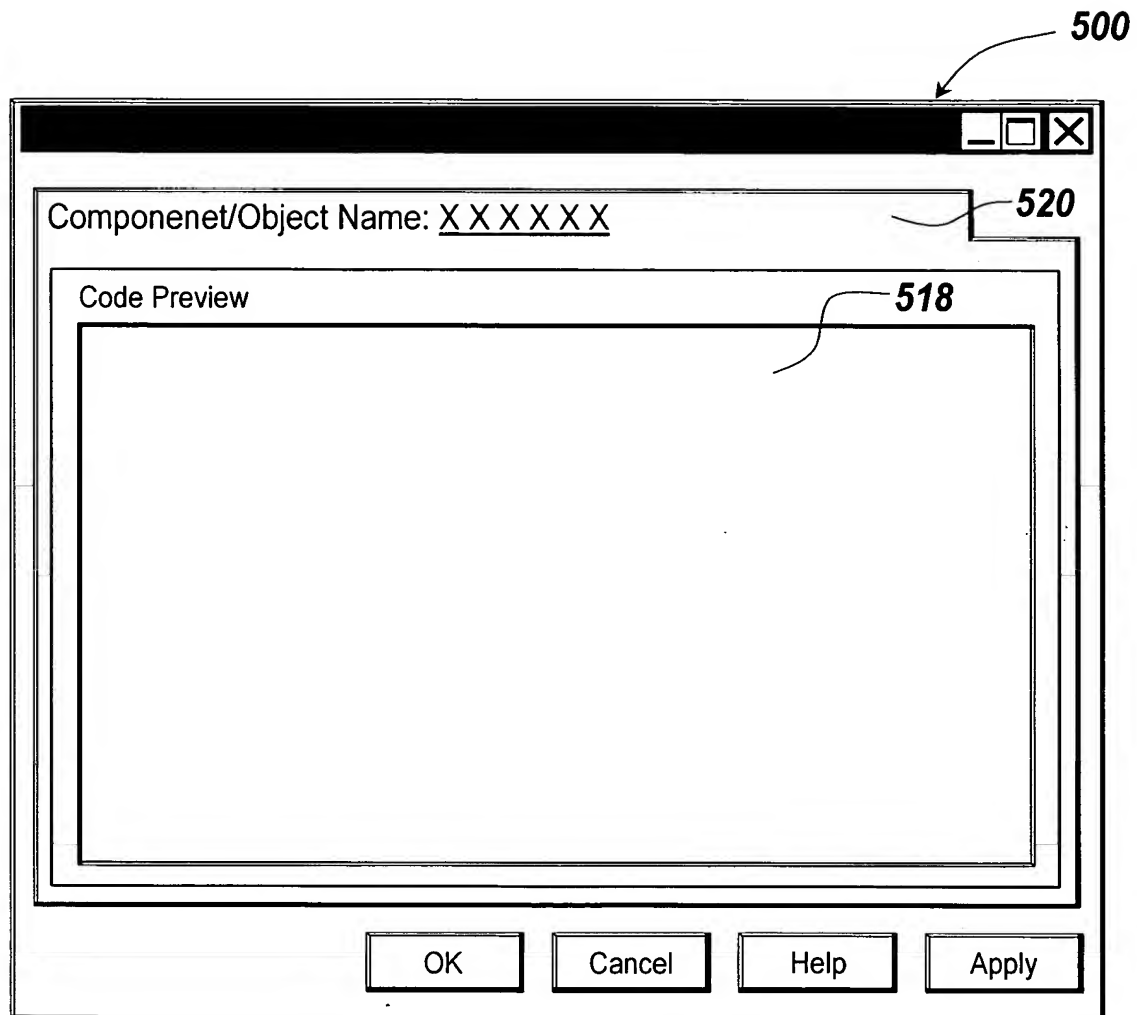
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*Fig. 4*



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*Fig. 5*

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600

**State Properties:**

State code generation options

State name: 612

RTW storage class: Auto 610

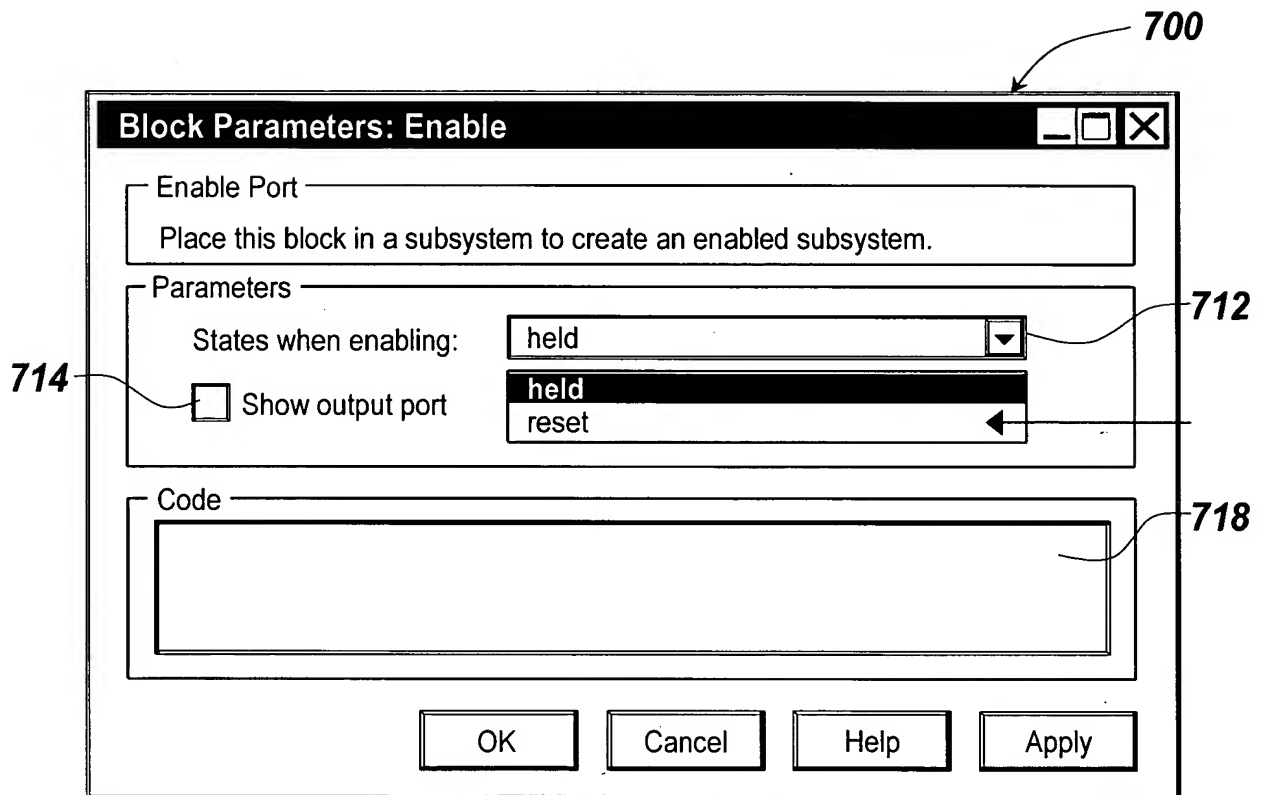
RTW storage type qualifier: 620

Code Preview Code 618

OK Cancel Help Apply

*Fig. 6*

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*Fig. 7*

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800

**Signal Properties: a** [min] [max] [close]

Documentation

Signal name: **832** Show propagated signals: on **836**

a **830**

Description: **834**

Document link: **838**

Signal monitoring and code generation options **820**

☐ Displayable (Test Point) **822**

RTW storage class: Auto **824**

RTW storage type qualifier: **826**

Code Preview **818**

OK Cancel Help Apply

*Fig. 8*

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**Custom Storage Class Designer** [?] [X]

Custom storage classes:

- Const
- ConstVolatile
- MacroDefine**
- SignalStruct
- ParameterStruct

Copy Remove Up Down Validate

Validation result

Last validation succeeded.

Code preview

```
No header file is specified. By default, data  
is exported via the generated model.h file.  
  
/* Macro defines */  
#define data numeric_value
```

General Usage Structured Data Header File Comments Pragmas

Name: SignalStruct

Visibility: ☒ Exported ☐ Memory access: ☒ Direct ☐ Initialization: Macro

☐ Constant ☐ Volatile

Qualifier:

File name: user\_custom\_storage\_class\_reg.m

Add path: ☒ Yes - this session only ☐ Location: \\Bat07\\A\\perfect\\matlab\\toolbox\\simulink\\simulink

Load From Directory Save To Directory Save

OK Cancel Help Apply

Fig. 9

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Custom Storage Class Designer

Custom storage classes:

Const

ConstVolatile

MacroDefine

SignalStruct

ParameterStruct

Copy

Remove

Up

Down

Validate

General

Usage

Structured Data

Header File

Comments

Pragmas

Name: SignalStruct

Visibility: Exported

Memory access: Direct

Initialization: Static

Constant

Qualifier:

File name: user\_custom\_storage\_class\_reg.m

Add path: Yes - this session only

Location: \\Bat07A\perfect\matlab\toolbox\simulink\simulink

Load From Directory

Save To Directory

Save

Validation result

Last validation succeeded.

Code preview

No header file is specified. By default, data is exported via the generated model.h file.

/\* Constants \*/  
extern const datatype dataname(dimension);  
/\* Constants \*/  
const datatype dataname(dimension) "" (...);

OK

Cancel

Help

Apply

Fig. 10

**Block Parameters: Add** ? \_ X

Sum

Add or subtract inputs. Specify one of the following:

a) string containing + or - for each input port, | for spacer between ports (e.g. +++|++)  
b) scalar > = 1. A value > 1 sums all inputs; 1 sums elements of a single input vector

Main Signal data types

☐ Require all inputs to have some data type

Output data type mode: Inherit via internal rule

Round integer calculations toward: Floor

☐ Saturate on integer overflow

Code Preview

$y = u1 + u2;$

OK Cancel Help Apply

Fig. 11A

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1100

**Block Parameters: Add** ? \_ X

Sum

Add or subtract inputs. Specify one of the following:  
 a) string containing + or - for each input port, | for spacer between ports (e.g. ++|++)  
 b) scalar > = 1. A value > 1 sums all inputs; 1 sums elements of a single input vector

Main Signal data types

☐ Require all inputs to have same data type

Output data type mode: Inherit via internal rule

Round integer calculations toward: Floor

☒ Saturate on integer overflow

1118

Code Preview

```
temp = ul + u2;
if ((ul >= 0) && (temp < 0)) {
    temp = MAX_int8_T;
} else if ((ul < 0) && (temp >= 0)) {
    temp = MIN_int8_T;
}
y = temp
```

1120

OK Cancel Help Apply

Fig. 11B



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1100

**Block Parameters: Add** ? \_ □ X

Sum

Add or subtract inputs. Specify one of the following:  
 a) string containing + or - for each input port, | for spacer between ports (e.g. +++|++)  
 b) scalar > = 1. A value > 1 sums all inputs; 1 sums elements of a single input vector

**Main** **Signal data types**

☐ Require all inputs to have same data type

Output data type mode:

Round integer calculations toward:

☒ Saturate on integer overflow

1118

Code Preview

```
{
  int16_T castIn;
  rtb_Add_o = untitled_U.In1;
  /* multiply input by slope correction and cast to output*/
  MUL_S16_S16_S16_SR20(castIn,untitled_U.In2,5243);
  Accum_POS_S16_S16_SAT(rtb_Add_o,castIn);
}
```

1120

Fig. 11C

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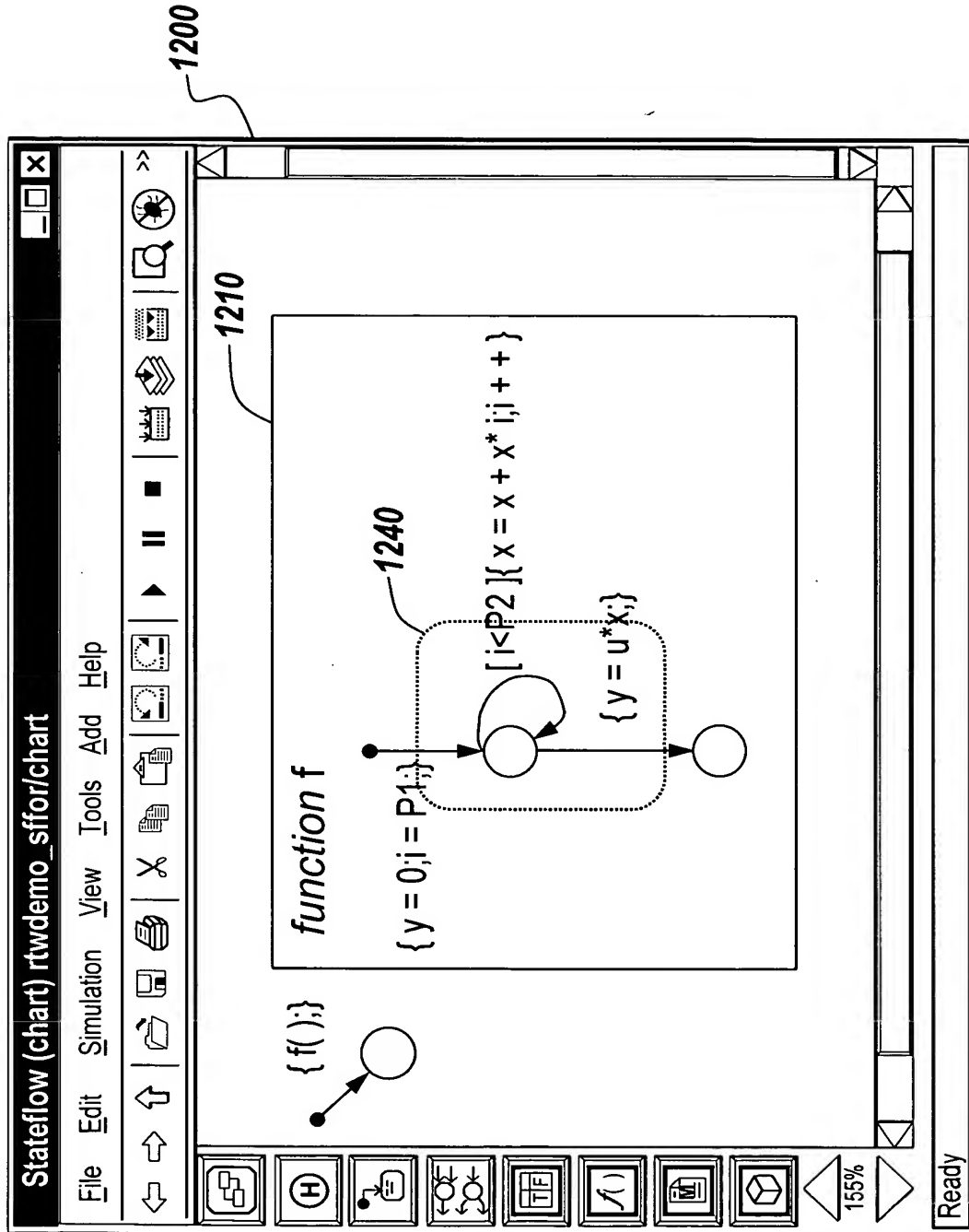


Fig. 12